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AMENDMENTS TO THE CLAIMS

- Claim 1.** (Previously Presented) A method for modulating the morphology of softwood pulp fibers comprising the steps of
- subjecting the pulp fibers to a metal ion-activated peroxide treatment carried out at a pH of between about 1 and about 9, and
- subjecting the pulp fibers to a refining treatment to form refined paper making pulp fibers.
- Claim 2.** (Original) The method of Claim 1 wherein said metal ion is a transitional metal ion.
- Claim 3.** (Original) The method of Claim 1 wherein said metal ion is iron.
- Claim 4.** (Original) The method of Claim 1 wherein said pH is between about 3 and about 7.
- Claim 5.** (Original) The method of Claim 1 wherein the fibers are subjected to the solution at temperatures between about 40 degrees C to about 120 degrees C.
- Claim 6.** (Original) The method of Claim 1 wherein the fibers are subjected to the solution for between about 10 minutes to about 10 hour.
- Claim 7.** (Original) The method of Claim 1 wherein said peroxide is present with said solution at a concentration of between about 0.2% and about 5% based on pulp.
- Claim 8.** (Original) The method of Claim 1 wherein said metal ion is present in said solution at a concentration of between about 0.002% and about 0.1% on pulp.

**Claim 9.** (Previously Presented) The method of Claim 1 wherein said softwood pulp fibers is subjected to said solution for a time sufficient to substantially act on at least the cellulose and hemi-cellulose of the pulp, causing oxidation and oxidative degradation of cellulose fibers.

**Claim 10.** (Previously Presented) The pulp of claim 15 wherein said softwood pulp has a modified morphology, leading to paper making properties substantially functionally equivalent to hardwood pulp papermaking properties.

**Claim 11.** (Previously Presented) The pulp of Claim 10 wherein the fibers of said softwood pulp, after treatment, exhibit a substantially shorter fiber length and distribution, and enhanced fiber collapsibility, than prior to treatment.

**Claim 12.** (Previously Presented) The pulp of Claim 10 wherein said softwood pulp is oxidatively degraded relative to untreated softwood pulp.

**Claim 13.** (Previously Presented) The pulp of Claim 10 wherein the softwood pulp exhibits a Canadian Standard Freeness of between about 115 and about 590.

**Claim 14.** (Previously Presented) The pulp of Claim 13 wherein the softwood pulp exhibits a Kajaani average fiber length of between about 1.0 and 1.9 mm.

**Claim 15.** (Original) A pulp comprising between about 50% and 90% hardwood pulp and the remainder being softwood pulp which has been subjected to a metal ion-activated peroxide treatment carried out at a pH of between about 2 and about 9 and a refining treatment.

**Claim 16.** (Original) The pulp of Claim 15 wherein said metal ion is a transitional metal.

**Claim 17.** (Original) The pulp of Claim 15 wherein said metal ion is iron and said pH is between about 3 and about 7.

**Claim 18.** (Original) The pulp of Claim 15 wherein said pulp is substantially functionally equivalent to a hardwood pulp as respects the usefulness of the pulp in papermaking.

- Claim 19.** (Previously Presented) The pulp of Claim 11 wherein the softwood pulp is used to manufacture a paper web material.
- Claim 20.** (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are Kraft pulp fibers.
- Claim 21.** (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are Southern Pine pulp fibers.
- Claim 22.** (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are bleached pulp fibers.
- Claim 23.** (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are bleached Kraft pulp fibers.
- Claim 24.** (Previously Presented) The method of claim 1 wherein said refined pulp fibers exhibit a substantially shorter fiber length and distribution and enhanced fiber collapsibility than prior to treatment.
- Claim 25.** (Previously Presented) The method of claim 1 wherein said refined pulp fibers exhibit paper making properties substantially functionally equivalent to hardwood pulp papermaking properties.
- Claim 26.** (Currently Amended) The method of claim 1 wherein subjecting comprises treating ~~said~~ said pulp fibers with a composition comprising peroxide and metal ions.
- Claim 27.** (Previously Presented) The method of claim 1 wherein said metal ions are selected from the group consisting of iron, copper, cobalt or a combination of two or more thereof.
- Claim 28.** (New) The method of Claim 1, comprising subjecting the pulp fibers to a metal ion-activated peroxide treatment carried out at a pH of between about 1 and about 7 at a

temperature of from 40 to 120 degrees Celcius for a time period of from 10 minutes to 600 minutes; and

subjecting the pulp fibers to a refining treatment to form refined paper making pulp fibers.

**Claim 29.** (New) The method according to Claim 1, further comprising adding a metal ion to peroxide.

**Claim 30.** (New) The method according to Claim 29, further comprising adding a metal ion to peroxide in the presence of the pulp.

**Claim 31.** (New) The method according to Claim 30, further comprising adding between about 0.002% and about 0.1% of metal ion based on pulp to peroxide in the presence of the pulp.

**Claim 32.** (New) The method according to Claim 29, further comprising adding between about 0.002% and about 0.1% of metal ion based on pulp

**Claim 33.** (New) A pulp comprising between about 50% and 90% hardwood pulp and the remainder being softwood pulp which has been subjected to the method according to claim 32.

**Claim 34.** (New) A method for modulating the morphology of softwood pulp fibers, comprising

adding a metal ion source to a solution comprising peroxide to form a metal-ion activated peroxide; and

contacting the pulp fibers with the metal ion-activated peroxide at a pH of between about 1 and about 9.

**Claim 35.** (New) The method according to Claim 34, further comprising refining the pulp.

**Claim 36.** (New) The method according to Claim 34, wherein the metal ion source is a metal salt.

**Claim 37.** (New) The method according to Claim 34, wherein the metal ion source is added at an amount such that between about 0.002% and about 0.1% of metal ion is present based upon the weight of the pulp.

**Claim 38.** (New) The method according to Claim 34, comprising  
contacting the pulp fibers with the metal ion-activated peroxide at a pH of between about 1 and about 7 at a temperature of from 40 to 120 degrees Celcius for a time period of from 10 minutes to 600 minutes.